Claims

1. A method for welding two rails (8,10,14) of a track using a welding unit (1) of a welding machine (20), wherein two rails (8,10,14), each gripped by a pair (6) of clamping jaws of the welding unit (1), are moved in the longitudinal direction of the rails with actuation of compression cylinders (3) and welded to one another, wherein, in the course of a so-called closure weld, a rail anchor (16) is produced in front of the machine (20), in a working direction (11), by means of a force-locking connection of a section of the rail (14) to sleepers (15) and, if an actual rail temperature differs from a local neutral temperature, stresses are passed into the rails to be welded together, **characterized in that**, parallel to the welding of a first rail (8) - with respect to the working direction of the welding machine (20) - to a second rail (10), a compressive force for producing a compressive stress is passed into a front rail end (7) of the second rail (10) by means of a rail-pushing device (19) in the direction towards the first rail (8), the rail-pushing device (19) being supported on a rail anchor (16) of a third rail (14) adjoining the second rail (10), and that, after termination of the welding process, the first rail (8) is braced with the sleepers (15).

2. A method according to claim 1, characterized in that, in a first phase of the welding process, the pairs (6) of clamping jaws pressed onto the first and second rail (8,10) are distanced from one another until adjacent end surfaces (9) of the two rails (8,10) are spaced from one another to form a welding gap w_s, and, in a second phase, the pairs (6) of clamping jaws are moved towards one another while current is supplied and, parallel thereto, the compressive force is passed into the second rail (10) by the rail-pushing device (19).

3. A method according to claim 1 or 2, characterized in that the compressive stress produced by the compressive force of the rail-pushing device (19) conforms to at least an ideal compressive stress correlating to the actual rail temperature.

4. A method according to any one of claims 1 to 3, characterized in that the welding unit (1) and the rail-pushing device (19) are controlled synchronously.